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IN THE CLAIMS:

1-23. (Canceled)

24. (Currently Amended) A method of removing fruit from a plant

during harvesting, comprising the steps of connecting drive means to the

plant to apply vibrations thereto, wherein the vibrations have a time-

variable frequency which can be controlled, and applying vibrations to the

plant while sweeping the frequency of the vibrations linearly or non-

linearly from an initial sweep frequency to a final sweep frequency so as

to remove the fruit from the plant, the vibrations being applied during

harvesting, the vibrations being controlled by complex time variable

signal codes.

25. (Previously Presented) The method according to claim 24, wherein

the vibrations are substantially unidirectional.

26. (Previously Presented) The method according to claim 24, wherein

the vibrations are applied to the plant substantially normally to a

longitudinal axis of the plant.

27. (Previously Presented) The method according to claim 24, including

measuring acceleration or displacement of the vibrations using at least

one sensor.

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28. (Previously Presented) The method according to claim 27, further

comprising the step of adjusting at least one of the frequency, phase and

amplitude of the vibrations in dependence on sensor measurement.

29. (Previously Presented) The method according to claim 24, including

manually adjusting at least one of the frequency, amplitude and phase of

the vibrations.

30. (Canceled)

31. (Previously Presented) The method according to claim 24, wherein

the initial sweep frequency is higher than the final sweep frequency.

32. (Previously Presented) The method according to claim 24, wherein

the initial sweep frequency is lower than the final sweep frequency.

33. (Previously Presented) The method according to claim 24, wherein

the vibrations include a modulation component which has a much lower

frequency than the sweep frequency.

34. (Previously Presented) The method according to claim 24, further

comprising the step of limiting the range of frequencies of the vibrations

by means of a band pass filter.

35. (Previously Presented) The method according to claim 34, further

comprising the step of omitting frequencies from the vibrations which

cause leaf detachment from the tree.

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36. (Previously Presented) A device for removing fruit from a plant

comprising:

a vibratory head having means for clamping a fruit plant to apply

vibrations to the plant, and means for controlling the vibratory head to

vibrate at a time-varying frequency which sweeps linearly or non-linearly

from an initial sweep frequency to a final sweep frequency,

the vibratory head further comprising at least one reaction mass

which is vibratably driveable and connected to the clamping means for

relative movement therebetween to provide a unidirectional force

transmittable between the reaction mass and the clamping means, and

hence transmittable to the plant, wherein the control means comprise

electronic control means which also controls at least one of the amplitude

and phase of the vibrations and supplies a complex time variable signal to

control the vibratory head.

37. (Canceled)

38. (Previously Presented) The device according to claim 36, wherein

the or each reaction mass comprises at least one of a hydraulic cylinder

and piston.

39. (Previously Presented) The device according to claim 38, wherein

the hydraulic piston and cylinder are driven by pressurised fluid which is

selectively applied to chambers of the hydraulic cylinder by a valve.

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40. (Previously Presented) The device according to claim 38, wherein

the reaction mass comprises a piston.

41. (Previously Presented) The device according to claim 38, wherein

the reaction mass comprises a cylinder.

42. (Previously Presented) The device according to claim 38, including

two cylinders and two pistons.

43. (Previously Presented) The device according to claim 38, including

more than two pistons and cylinders arranged orthogonally to one another

for placement around a trunk or branch of the plant and driveable

sequentially.

44. (Previously Presented) The device according to claim 36, wherein

the vibrations of the or each reaction mass are substantially

unidirectional.

45. (Previously Presented) The device according to claim 36, wherein

the vibratory force is applied to the plant substantially normally to the

longitudinal axis of the plant.

46. (Previously Presented) The device according to claim 36, further

comprising sensors for measuring at least one of the acceleration,

velocity, and displacement of the vibrations.

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47. (Previously Presented) The device according to claim 46, wherein

at least one of the frequency, phase and amplitude of the vibrations of

the reaction mass are adjustable in dependence on the sensor

information.

48. (Previously Presented) The device according to claim 36, wherein

the control means are manually adjustable.

49. (Canceled)

50. (Previously Presented) The device according to claim 36, wherein

the initial sweep frequency is higher than the final sweep frequency.

51. (Previously Presented) The device according to claim 36, wherein

the initial sweep frequency is lower than the final sweep frequency.

52. (Previously Presented) The device according to claim 36, wherein

the vibrations include a modulation component which has a much lower

frequency than the sweep frequency.

53. (Previously Presented) The device according to claim 36, wherein

the frequency range is limited by a band pass filter.

54. (Previously Presented) The device according to claim 36, wherein

frequencies which cause leaf detachment from the tree are substantially

omitted from the vibrations.

Serial No. 10/587,151 Amendment dated Sept. 27, 2010 Reply to final OA of Mar. 30, 2010

55. (Previously Presented) The device according to claim 38, wherein the vibratory head is mounted on carrying means with respect to which the vibratory head is independently movable.

56. (Previously Presented) The device according to claim 38, wherein the drive means utilises electromagnetic or pneumatic force to oscillate the reaction mass.

57. (Previously Presented) The method according to claim 24, wherein the vibrations further have at least one of a phase and an amplitude which varies with time.

58. (Cancel)

59. (Previously Presented) The method according to claim 24, wherein the vibrations are controlled by electronic control means.

60. (Previously Presented) The method according to claim 24, wherein the frequency of the vibrations exploits the pendulum-like non-linear resonance properties of the fruit-stem combination.

61. (Previously Presented) The method according to claim 28, wherein said adjusting step comprises one of reducing vibration amplitude and momentarily increasing rate of change of the vibration frequency of the driving motion.

62-63. (Canceled)

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- 64. (Currently Amended) The device according to claim 3665, wherein the friction reducing means comprises Teflon[®] strips.
- 65. (Currently Amended) The device according to claim 36, wherein the reaction mass is slidably held in a cage of bars having friction reducing means.